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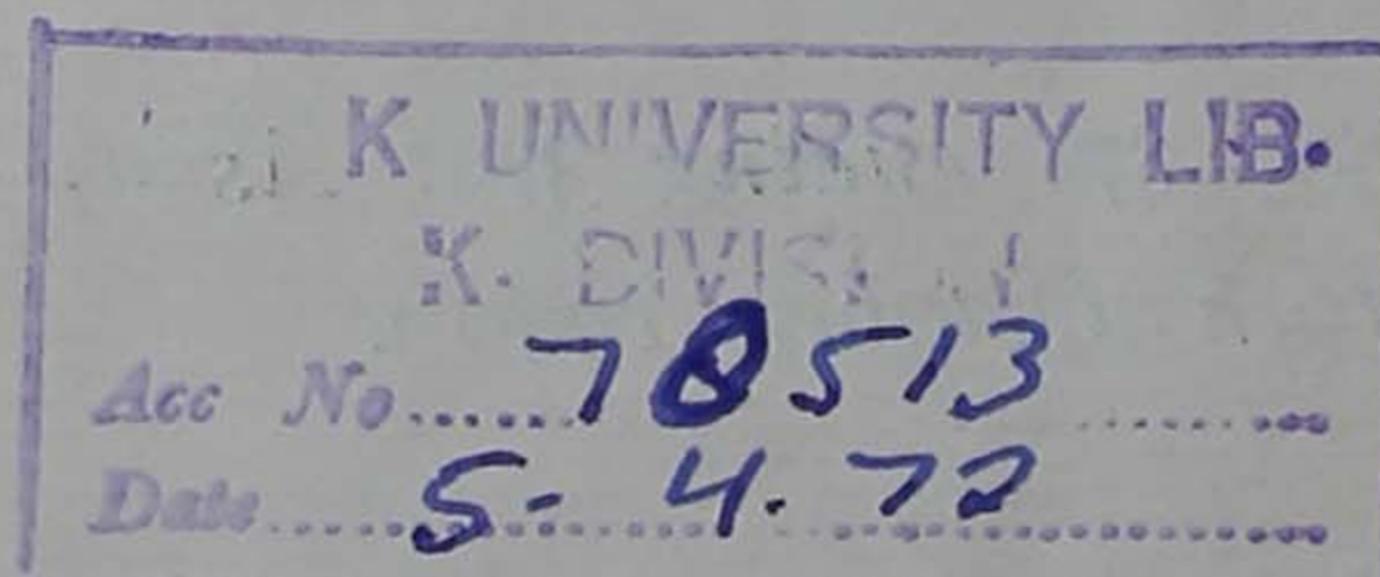
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PROGRESS REPORT
ON
FOREST ADMINISTRATION
IN THE
JAMMU & KASHMIR STATE
FOR THE

*Fasli Year 1986—87, ending 31st Assuj 1987
(16th October 1930).*



SRINAGAR
THE KASHMIR MERCANTILE PRESS,
1931.



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KISIP

Printed in Kashmir, by K. R. Madho Ram Bro,
at the Kashmir Mercantile Press. Srinagar.

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The Sindh Valley.



Photo, by Sir Alexander Rodger.

The Lolab.
Typical Kashmir Forests.

PROGRESS REPORT
ON
FOREST ADMINISTRATION
IN
JAMMU AND KASHMIR

For the Fasli year 1986-87, ending the 31st Asuj 1987.
(16th October 1930)

CHAPTER I.—GENERAL.

1. During the period under report climatic conditions were on the whole favourable for forest work. Climatic conditions. Winter had set in early. It was abnormally severe and prolonged. Snowfall was heavy. Spring rains were copious. Summer was comparatively mild and shorter than its usual duration. Both early and late frosts were prominent. The elongated mildness of the year curtailed the period of vegetative activity, the essential result of which was that the standing stock of forests put on smaller increment than the normal annual growth. Beyond the curtailment of the period of growth there was no inimical phenomenon to prejudice the forest working. Heavy accumulation of snow succeeded by copious rainfall resulted in steady and plentiful flow of water in the side streams. There were no outbursts of floods to cast the timber on to chhandas or to endanger the bursting of the Doabgah boom. Conditions in the main rivers were all through favourable, as no serious floods occurred to the floating operations. Full advantage was taken of the favourable floating season and large amounts of departmental timber both in log and scantling were extracted. Accumulations of chhanda timber that had been stranded far and wide by the previous year's heavy floods were all cleared and floated down to the lower sale depots.

2. Delay in the commencement of summer and prolongation of the mild spring temperature beyond its normal duration had threatened to cause disappointment in the resin tapping operations. Insufficient heat retarded the outflow of crude resin in the early

part of the tapping season, and consequently the outturn realized in all the 3 resin producing Divisions namely, Udhampur, Mirpur and Muzaffarabad, up to the middle of June, was appreciably lower than the normal production for the first $2\frac{1}{2}$ months. Later on conditions improved by a somewhat abrupt rise of temperature in the Chir zone and continued to be so favourable during the remaining portion of the tapping season that the divisions concerned were able to make up the earlier leeway by working up to the quantities that had been allotted for the year.

3. Crops were generally good in both provinces. Mirpur district suffered from a short spell of scarcity that was not serious. The royalty contractors had no difficulty in importing food grains into their working areas for feeding their labourers from different parts of the State or from abroad.

4. The year was free from serious epidemics, and there was no interference with forest works on this account. Towards the close of summer, however, cholera broke out in the Sopore side and certain other parts of Kashmir, but did not attain serious proportions.

5. The year under report had to pass through a great stress of depression. The universal world wide slump had its unfavourable repercussion on the timber trade, with the result that the prices of timber shrank considerably and disposals became very difficult. It is a matter of gratification for all concerned, that as 5 years leases of all important forests had been disposed of in more favourable times, the department has been able to tide over the existing crisis without any appreciable loss in its revenue. The brunt of the present depression has fallen on the royalty contractors. They have had to incur heavy losses on account of deflated prices and large stocks of unsold timber, that they could not dispose of inspite of their best efforts. Fir timber of all grades and Deodar B.G. sleepers have suffered most in this slump. Third class timber cannot be disposed of even at firewood rates.

6. A feature of the present depression is that it has not affected the State territory so adversely as the Punjab market. The result is that disposals of departmental timber in Kashmir and other places within the State territory have been fetching better prices than at Wazirabad and Jhelum. This is another reason why the department has been more lucky than its traders. With the abolition of the departmental working, the royalty contractors of Kashmir Province will take advantage of the comparatively stable conditions obtaining here by trying to dispose of as much of their outturn in Kashmir as can be consumed. If the present heavy depression does not pass off

before the termination of the existing important leases, it is evident that the department will have to face a heavy reduction in its receipts. It is hoped that conditions may improve earlier and apprehension of prospective deficit may not materialise.

7. Owing to perturbed conditions in China the demand for kuth was not brisk and its price is reported to have fallen off. According to the latest reports there were considerable stocks of unsold kuth and the prices began to rule so low, that this commodity was selling cheaper in Hong Kong than what it was being paid for at Baramulla by the present contracting firm.

8. According to the terms of their agreements the ^{Arrangements with} royalty contractors of the State have to supply 3,50,000 deodar and 25,000 fir sleepers annually to the Punjab Railways.

All contractors are complaining that the Railway administration have recently introduced very severe restrictions on passing of these sleepers, with the result, that the percentage of rejections has increased very considerably. This attitude of the Railway Department has to a certain extent aggravated the stringency of depression in the timber market by precipitating the drop in the prices of Deodar sleepers.

CHAPTER II. — ADMINISTRATION.

9. The Department remained under the Minister for Revenue and Agriculture up to the 20th February 1930. Thereafter it was transferred to the portfolio of the Development and Finance Minister. This office was held by Mr. P. K. Wattal.

10. Mr. H.L. Wright I. F. S., was in charge of the office of the Chief Conservator of Forests throughout the year.

11. The Circle charges were held as under :—

Jammu Circle by Mr. Tek Chand Hoon upto 16th Baisakh 1987 when he was transferred to Kashmir Circle on being relieved by R. Hukm Singh Bali after his return from leave.

Kashmir Circle by R. Hukm Singh Bali upto 9th Poh 1968 when he proceeded on 4 months privilege leave. From 9th Poh 1986 to 25th Baisakh 1987, by Bakshi Devi Saran Dy. Conservator of Forests and from 26th Baisakh till close of the year by Mr. Tek Chand Hoon.

Utilization Circle by Pt. Shiv Nath Kaul throughout the year.

Working Plans Circle by Pt. Shiv Nath Kaul throughout the year as an additional charge in addition to Utilization Circle.

12. During the year the superior service was further strengthened by the appointment of Pt. Ram Lal Khajuria with effect from the 22nd Chet who successfully completed 1927 - 29 I.F.S. course of training at Dehra Dun as a State stipendiary.

13. The Private Domains forests of His Highness the Maharaja Bahadur were amalgamated with the State Forest Department with effect from 6th Chet 1986. The two new divisions comprising these forests, namely, Langet and Bhadarwah, were held by Th. Haqiqat Singh Jamwal and L. Ladha Ram respectively.

14. At the close of the year the number of rangers was 106 against the sanctioned cadre of 109. The number of rangers possessing D.D.R. Certificates is now 52. Four new additions to the cadre of trained rangers took place during the year under report.

15. Two of the five untrained forest rangers who had been sent to Dehra Dun for undergoing training in the 1929 - 31 rangers' course namely Wazir Lakhmi Chand and Th. Rasal Singh, were sent back by the President of the College, as they were not competent to pull on in the rangers' class.

16. Five new candidates were selected and sent to Dehra Dun during the year for undergoing training in the Forest Rangers Course in 1930-32.

17. The 1986 course at the Chatarnar Forest School under Lala Prem Nath Forest Ranger was closed down on the 27th Maghar. Ten students took up the final examination all of whom were successful.

18. The 1987 session opened under the same Instructor on 9th Baisakh 1987 with 12 students out of whom three had to be subsequently sent down for incompetency.

19. No new territorial division was opened during the year. One new Working Plan Division for the revision of the working plan of the Bhadarwah Forests was created with effect from 1st Sawan 1987. This Division was held by L. Faqir Chand Gupta, Assistant Conservator of Forests.

20. Almost all divisional offices were inspected during the year by the Conservators of the Jammu, Kashmir and Utilization Circles, while the Accountant General's Local Audit party inspected 7 offices during the year.

21. With effect from 15th Baisakh 1987 the grades of the clerks of the Forest Department, along with those of other departments of the State, were revised. The revised scales of pays did not, however, suit the requirements of this department.

22. The strength of the clerical establishment was reduced from 143 to 136 with effect from 15th Baisakh 1987. The seven retrenched clerks were transferred to other State departments.

23. Twelve clerks were added to the cadre on the assimilation of the Private Domains Forest Department. At the end of the year, the revenue audit branch of the Forest Department accounts was transferred to the Accountant General, with effect from the 1st Katak 1987, along with 8 clerks that had been discharging these functions. This transfer reduced the clerical strength of the department from 148 to 140 at the close of the year.

CHAPTER III.—CONSTITUTION OF STATE FORESTS.

24. The total area administered by the Forest Department at the end of Assuj 1987 was 10,141 square miles Alterations in area, made up as follows:-

Demarcated forests	9,945	square miles
Partially demarcated	34	"
Undemarcated forests	162	"

25. As compared with the previous year there is an increase of 494 square miles under demarcated forests, and 2 square miles under undemarcated forests. This aggregate increase of 496 square miles is due to the transfer of the Private Domains Forests to the Government Forest Department. Under this amalgamation the Bhadarwah Forest Division was absorbed by the Jammu Circle, and Langet Division was assimilated by the Kashmir Circle.

26. Settlement operations continued in the Muzaffarabad and Jhelum Valley Divisions of the Kashmir Circle, and in the Mirpur Division of the Jammu Circle. But they did not undertake any revisions of the demarcated boundaries during the year under report.

27. As demarcation files for the revision work carried out during the two previous years, are still incomplete with the Settlement Department it is not possible to show the results of the revised demarcation in this year's report. Several Divisional Forest Officers have complained of the inordinate delay, that takes place in obtaining copies of demarcation files from the Settlement and Revenue Departments. Requests to these Departments for supply of these files are not heeded. Certain divisions have solved this difficulty by deputing their subordinates to the Governor's office for copying out the available files. As all demarcation files are not forthcoming the Register of Forest areas cannot possibly be posted up-to-date.

28. The total length of the demarcated boundaries at the close of the year under report was 33,580 miles against 32,459 miles of the last year. Boundaries.

Increase of 1,123 miles is due to the important change of annexation of the Private Domains Forests to the forests of the Government. Most divisions report repairs to boundary pillars partly by Forest Guards and partly on daily labour. But in absence of demarcation files that are being withheld in the Revenue and Settlement Departments it is becoming extremely difficult to locate missing pillars and preserve the existing pillars of demarcated forests in their proper positions.



Photos by H. L. Wright.

Scantling extraction by dry slide in the Pir Panjal Division.

The total expenditure on demarcation was Rs. 2560 as compared with Rs. 2558 during the previous year.

29. No special forest surveys were carried out during the year. Some divisions have carried out small surveys for checking demarcation boundary lines with the existing forest maps. The total expenditure incurred during the year was Rs. 165 as compared with Rs. 55 during the last year.

30. The total expenditure on the constitution of State forests was Rs. 2725 against Rs. 2613 in 1985-86.

CHAPTER IV.—WORKING PLANS

31. The position in regard to Working Plans continues to be eminently satisfactory. Regular Plans have been completed for all commercial forests in both Jammu and Kashmir Circles. The only exception is the newly transferred Bhadarwah Division from the Private Domains to the State Forest Department. This Division was taken up for an up-to-date plan during the year. The new plan is expected to be ready next year. Plans for the high level forests of Mirpur and Reasi Divisions, and for the Chir forests lying in the Nowshera Tawi Valley are under preparation, and should be complete in 1987-88. But these forests are comparatively unimportant from economic stand-point and they are hardly expected to yield any revenue under stress of the existing all round depression.

32. At the commencement of the year the Working Plans Circle comprised two Divisions, namely, Research Division and the Jammu Working Plan Division. Bhadarwah Working Plan Division was created on the 1st Sawan 1987 for taking up working plan of the Bhadarwah forests. These three Divisions continued to function right up to the close of the year.

33. The following statement summarises the work of the Working Plans Circle during the year:—

Plans sanctioned and distributed.	...	Jasrota, Keran, Muzaffarabad, Kishtwar, Reasi Chir and Ramban.
Plans awaiting Government sanction.	...	Nil.
Plans with the press	...	Nil. The working plan maps of the Gurez and Tharochi Rajmahal plans were under print at the Forest Map Office, Dehra Dun.
Plans under preparation.	...	High Level Forests of the Mirpur and Reasi Divisions, Chir Forests of the Nowshera Tawi Valley, and Bhadarwah Division.
Plans pending with the Working Plans Circle.	...	Kashmir, Jhelum Valley, Sindh, Gurez, Tharochi Rajmahal and Ningli Willow plantation.

The Working Plans Circle was not able to turn out any new plan during the year.

34. The work carried out by each party during the year is as follows :—

Research Division. Th: Harnam Singh Pathania held this Division throughout the year. Thirteen new Sample Plots were laid out in the Ningli willow plantation. Fifteen similar plots had been made last year in the Haran willow plantation. A good deal of work on field measurements in the 28 sample plots was gone through and data for finding out the proportion between stacked and solid volume of willow firewood compiled. Sixteen sample plots of Kail and Deodar were laid out, four in Kamraj and six each in Langet and Pir Panjal Divisions. Inspections were made in the Pir Panjal and Kashmir Divisions for selecting suitable areas for establishing Sample Plots.

Jammu Working Plan Division. Pt. Shri Dhar Dar was in charge of this Division all through the year. Enumerations in the High Level Forests of the Riasi and Mirpur Divisions were completed. Preliminary report for Chir Forests of the Chenab watershed in Mirpur Division was drawn up by the Divisional Forest Officer, but remained pending with him until the end of the year.

Bhadarwah Working Plan Division. Lala Faqir Chand Gupta held this Division. Preliminary field work was gone through during the last three months of the year that this Division was in existence.

35. On completion of the working plans that are in hand there will be no forests of any value for future work. which further plans will be necessary. Revision of some of the regular plans that are in force will fall due within a couple of years and this work will then occupy the Working Plans Circle. In the meantime the most important work that should not brook any further delay, is to release the six working plans that are pending with the Working Plans Circle for publication. These plans have been enforced, and as long as their copies are not available for use of all officials that are responsible for carrying out the plans, working becomes difficult and uncertain. The work of organising sample plots is still to receive considerable expansion in the State forests.

36. The prescriptions of the existing working plans and of those being worked in anticipation of sanction, have, as regards fellings, generally been worked up to. On account of very limited demand for Fir and Spruce no work has so far been undertaken in the

Fir Working Circles of either the Lolab or Kamraj Plan, while in the Fir Working Circle of the Pir Panjal Division, fellings have been restricted to about one-third of the possibility. Similar depression in the demand of bamboos admits of extraction of a small portion of the bamboo out-turn that the plan prescribes. Execution of thinnings in accordance with the provisions of the plans in force is receiving proper attention and the past arrears in certain Divisions have been brought up-to-date. Working under the regular plans has very substantially increased the field work. The brunt of the additional burden has fallen on the territorial Divisional Forest Officers and Conservators. It is satisfactory to note that all officers of the Superior Service have settled down to appreciate their respective responsibilities and are working diligently for carrying out the provisions of the Plans.

37. Control Forms of a number of Divisions have fallen in arrears. Work under this head has accumulated more in Kashmir Circle than in the Jammu Circle. The checking of control forms has been entrusted to the Conservator Working Plans Circle. He reports that on account of double charge he could not cope with the work during the year. This work will have to be brought up-to-date in the next year.

CHAPTER V. SILVICULTURE

Natural Regeneration

38. It has been rather unfortunate, that since the introduction of concentrated regeneration fellings in the treatment of our Deodar forests in 1981, seed years have all along been very lean. The year 1984 yielded a fair amount of Deodar seed, but the following spring was so abnormally hot and dry as to have destroyed most of the resulting seedlings. The result of this long succession of unfavourable seed years is, that the work of regeneration has lagged behind the fellings. It is a matter of satisfaction that after six disappointing years this year produced a bumper crop of seed. Every effort has been made to take advantage of this favourable opportunity by concentrating on collection of seed and various regenerative operations with the object of bringing under regeneration as much areas as could possibly be done.

39. Kail regeneration has been causing no anxiety. This species has produced a fair amount of seed every year. The seedlings are establishing themselves in the P.B.I. areas. They soon begin to luxuriate in extensive masses leaving little room for the more valuable regeneration of Deodar. In such cases artificially assistance has to be rendered for maintaining proper proportion between the two rivals.

40. During the year Fir and Spruce produced little seed. As the existing slump in timber trade is operating on these two species worst of all, their fellings in a number of Divisions have to be kept in abeyance. In these Divisions even if the production of seed be satisfactory, canopy of the existing stands is so heavy that seed will not germinate and if it germinates the seedlings cannot survive. In other Divisions, wherein fellings are undertaken according to the provisions of the working plan in force, the contracting firms fell trees and leave them unconverted in the forest. It is almost impossible to get rid of so much fallen stuff. The result is that the seed cannot germinate on the forest floor and consequently no regeneration can establish itself. Thus under the present circumstances Spruce and Fir regeneration can make no headway in forests that are lying idle nor in stands that are being worked over.

41. Chir yielded a good crop of seed during the year, and its regeneration was plentiful in almost every Chir producing Division. Luckily there were no serious fires in this year. The

measures necessary for the concentrated natural regeneration of Chir Forests to produce uniform crops have been successfully worked out. Protection from fire is the main difficulty. Normal protective measures suffice for the ordinary accidental fires, but incendiaryism, under the conditions that rule in the State, can be met only by the growth of a sound public opinion. It is a matter of considerable regret that there are no indications of any progress in this direction and consequently incendiaryism is a constant menace to the young woods of Chir in the State forests.

42. In Jasrota the reproduction of Bamboos although satisfactory, was not so prolific as during the preceding year, on account of insufficient rain at the time of the appearance of the new culms. In consequence of unfavourable market conditions exploitation of bamboos has to be considerably restricted and therefore reproduction of the bamboo forests cannot progress in proportion to the resourcefulness of these forests.

43. The existing regeneration of all coniferous species is Existing regeneration on the whole satisfactory and fairly plentiful.

44. The foregoing remarks apply to the general condition of regeneration both near and already existing. Specific details about actual progress of the year in regeneration in P. B. I. that are being worked under concentrated regeneration fellings, are very difficult to obtain. The main reason being, that the areas selected for major fellings under working plans are already stocked with regeneration. The time taken in the establishment of new crops is an element of great uncertainty in the forest management and this delay is met by retarding the rate of the main fellings. It is not definitely known how long it would take to create regeneration, where and when we wanted it, or how long the unestablished regeneration would require to attain maturity. To tide over this uncertainty care has been taken that the rate of fellings prescribed can be maintained not merely for the ten years, prescribed for in the plans, but also at least for the succeeding ten years. Thus as working is spread over periods of ten years, annual comparisons of the progress made by regeneration are of little value. The real comparison must be by intervals of ten years, when the Working Plans are revised.

45. Under the present regime of the intensive working every year that passes brings about further Measures for aiding regeneration. addition to the regenerative operations that have to be carried out on completion of the main fellings, for aiding or inducing natural regeneration. This work

mainly consists of hoeings, burnings of slash, eradication of weeds, cutting back of useless species and fencing. During the year these operations were carried out extensively in Kamraj and Langet Divisions of the Kashmir Circle and Ramban Division of the Jammu Circle. This work is particularly backward in Muzaffarabad and Keran Divisions on account of the slackness of fellings by the contracting firm of Kishanganga. Prolonged failure of Deodar seed for the last 5-6 years apart from setting back this regeneration work has rendered it more difficult. For keeping up with the fellings certain Divisions had carried out collection and burning of felling debris and extinction of undesirable superfluous growth. The seed having failed, the ash beds and hoed up patches meant for reception of seed have been usurped by rank growth. The useful manure of ashes has all been consumed, fine tilth of soil all lost, and these areas have been cleared and ploughed once more. If actual burnings be put off until the approach of a good seed year the accumulated work becomes too heavy to be gone through in one season. The only solution appears to be artificial sowings during lean years and extension of clearances in the year of heavy seed fall.

46. In Ramban Division experiments for evolving suitable method for eradicating Pohu, from areas wherein it had acquired exclusive hold were conducted. Creeper cutting and girdling of inferior species were carried out by a number of Divisions in the Jammu Circle.

47. The usual cultural operations consisting of cleanings, Tending operations thinnings, cutting back inferior stems, climber cutting and felling and girdling of worthless species were carried out where necessary.

48. Under this head thinnings are the most important silvicultural measure and are carried out in a properly organized sequence under the Working Plans in force. Markings for thinnings in almost every important Divisions are becoming so heavy, that the staff available for this purpose has to work at considerable pressure for coping with the annual allotments. It is satisfactory to note that this important operation is receiving adequate attention from the Divisional Forest Officers. In executing markings all stems up to 8" diameter are felled on the spot under the supervision of the marking officers, and silvicultural requirements of the stands gone over, alone, regulate the intensity of markings. It is constantly borne in mind that the only *raison-de-tre* of a thinning is to improve the crop. Frequent result of this strictness is that the material yielded by thinning markings

is generally of low commercial value, and several thinning coupes find no custom during the existing spell of heavy slump.

49. The steady increase in the extent of artificial regeneration work being undertaken is one of the most marked features of modern forest management in the State. The Langet Division

Artificial regeneration has raised a tolerably large stock of nursery grown deodar seedlings for transplanting on nature's fail spots in the main coupes. A number of blanks have also been reclothed by deodar seedlings by broadcasting the seed on hoed up land. In Ramban Division 30,000 naturally grown seedlings of Deodar and Kail were shifted from the forest and introduced into the blanks belonging to the P.B.I. areas. In Udhampur Division three seers of Deodar seed was sown and 10,100 plants of Deodar and Kail transplanted from forest into the main felling coupe.

50. About 500,000 cuttings of willow were planted in the recently acquired swamp area to the south of the Haran Plantation, Sindh Division. The Maimandaji plantation, in Kashmir Division, was extended by planting 12,242 willow cuttings over an area of 21 acres. Conditions were favourable all through the year.

51. Olive plantations in the Muzaffarabad Division had been extensively damaged by the heavy snow fall of 1985. Most of the young trees that had been affected could not recoupe their damage and had to be replaced during the year. As already stated in the previous reports these plantations have got no room for further extension. An experiment was made, at the instance of the Director of Industries for inoculating wild olives growing in Forest areas along the Chenab river at Mehtra and Ramban with grafts from plantations of Muzaffarabad Division. This experiment did not succeed and failure is attributed to delay in carrying out graftings and the age of the trees that were operated upon.

52. The large Kuth nursery in the Gusai Nala was further extended by sowing kuth seed over 50 acres. In Muzaffarabad Division the Shamsburry and Narain nurseries received further additions by planting 13,900 root cuttings and sowing $5\frac{1}{2}$ seers of kuth seed. Keran and Langet Divisions carried out sowing over small areas. Bhadarwa Division planted 1,200 root cuttings and Kishtwar Division carried out planting over 106 acres in Marwa and Dachhan Ranges. Ramban surpassed all other Divisions by planting approximately 100,000 root cuttings in

Kuth propagation.



Transporting the cuttings.



Planting.
Willow planting in the Sindh Division.

Photos. by P. Chand.

Udil, Ramban and Banhal Ranges.

53. The Digitalis nursery established last year at Singhpur in Ramban Division was further extended. The well established nursery at Tangmarg, in Jhelum Valley Division, where Digitalis, Belladonna and Henbane were being successfully raised in the past had to be given up on account of the transfer of that area to the Medical Department for instituting a Sanatorium for tubercular patients. Another plot in the same neighbourhood was selected but it will naturally be some time before a new nursery is established.

54. Th : Harnam Singh, Assistant Conservator of Forests, was in charge of the Research Division. He worked on the compilation of volume and yield tables for plantations of willow. In pursuance of these labours the Thakur laid out thirteen Sample plots in the Ningli willow plantation. Fifteen Sample Plots had already been constituted in previous years in the Haran plantation. So that research into the growth of willow will have to rely on the results yielded by twenty eight Sample plots. Preparation of volume and yield tables for Deodar and Kail was also taken in hand. For this purpose sixteen Sample plots of these two species were laid out in Kamraj, Langet and Pir Panjal Divisions. Sites for a dozen more Sample Plots were selected in Pir Panjal and Kashmir Divisions, but the plots could not be delineated on the ground before the close of the year.

55. The experiments referred in the last report, on ascertaining the best method of propagating kuth, and for finding out the yield of fully and partially stocked kuth fields, were continued during the year. No definite conclusions could be arrived at before the close of the year.

CHAPTER VI. PROTECTION.

Erosion in the lower hills.

56. The deplorable condition of the low hills of the Jammu Province where forests have been devastated and erosion has set in, is not fully realised outside the department as it has for many years within it. Those who are versed in the history of forest denudation in other parts of the world are able to visualise the disastrous results that must follow on the steady deterioration that is taking place. Forests have been ruined and bare hill sides and sand and pebbles in the comparatively level portions now remain to aggravate the barrenness of the Kandi tract. The ruin of the forests is in itself so great a loss that it is difficult to understand how it has been tolerated. Every bare hill means in the rainy season, not one but hundred of torrents fiercely cutting their way through soil robbed of its natural protection, the trees and the grass. Every torrent as it reaches the valley adds its fury to the raging stream rolling its burden of devastation to the fields on its banks and the cultivations lower down. The flood rages for a day, the ruin remains for generations. Forests have been neglected and are taking their revenge on cultivations. The conservation of forest growth in the lower hills of Jammu is a crying need and no time should be lost in entrusting these denuded tracts to the care of the Forest Department for their preservation and further improvement by afforestation.

57. During the year under report the total number of cases reported was 5,227 as compared with 4,940 in the preceding year. The total number of new cases taken to court was 308, which added to 301 pending at the beginning of the year, made a total of 609 as compared with 552 of the previous year. This increase is due to the court cases that had been outstanding in the Private Domains Courts, at the time of the amalgamation of those forests with the forests of the Government. Out of the 609 cases, the courts disposed of 276 cases, leaving 333 cases pending at the close of the year. Of the 276 cases dealt with 127 resulted in convictions, giving a percentage of 46.01.

This average figure can not be regarded satisfactory. The Divisional Forest Officer, Jammu Forest Division scored the highest percentage of convictions *viz.* 54. Reasi and Kashmir Divisions stand lowest in this respect by turning



Dragging.



Photos, by H. L. Wright.
Floating.
Logging Operations in the Lolab.

out a percentage of 20 each.

59. As mentioned in last year's report a very unsatisfactory feature of this side of work is the increase in the accumulation of pending court cases from year to year. The great delay which occurs in disposing of cases prosecuted tends to defeat the object of prosecution. Since swift retribution undoubtedly has a far greater deterrent effect than punishment deferred. It should be realised by the courts that cumulative effect of delays made in disposal of forest cases intensifies the difficulties of forest protection. The individual importance of pending cases may not be great from a legal stand-point but their collective weight brings about deterioration and even destruction of forest vegetation, that is of incalculable value to the inhabitants of the State.

60. Three thousand four hundred and thirty cases involving 5285 persons were compounded during the year as compared with 3339 cases involving 4475 persons of the previous year. Rupees 22,249 were realised as compensation averaging Rs. 6/7/6 per case and Rs. 4/3/4 per person, as compared with 6/10/9 per case and Rs. 4/15/8 per person in 1985-86.

61. It will be seen from the above figures, that the number of this year's compounded cases is more or less the same as that of the last year. With addition of two more divisions the number of cases should have correspondingly risen during this year. As this is not the case the inference at first sight will indicate a drop in the tide of forest offences. But from the general conditions that obtain here it would be incorrect to draw any such deduction. In this connection it should be remembered that the number of reported offences falls substantially short of the actual number of offences committed. This must necessarily be the case when large areas, in a hilly country, have to be entrusted to the care of a single forest guard. The influence of this factor has been intensified with annual withdrawals of an already inadequate protective staff for meeting the requirements of the heavily increasing silvicultural work under the modern plans.

62. During the year the protection of river borne timber had become very difficult in the case of the Jhelum river, where the last year's abnormal flood had washed away large stocks of Government timber. The prompt steps taken by the Divisional Forest Officer Lower Jhelum Division for salving the timber made it possible to save large quantities of timber, which would otherwise have been stolen.

Flooded timber.

63 The year under report was very favourable for fire protection. The Jammu Circle had 256 of outbreaks covering an area 20352, acres which is considerably below the average. The lower hills

Fire protection. of Jammu that never escape without fires had this year, forty fire occurrences affecting 10,990 acres, so that more than one-half of the entire acreage of the whole Circle fell to the share of the Jammu Division alone. Next to Jammu, Billawar and Riasi Divisions contributed towards this year's fires. In Kashmir Circle the number of fire occurrences was very small. There were outbreaks involving an area of two hundred and thirty-one acres only as compared with 4152 acres in the previous year. No P.B.I. area suffered from this year's fires. Fires in Kashmir were accidental, whereas in Jammu Circle they were as usual, attributed to incendiarism. The total expenditure incurred on fire protection amounted to Rs. 675.

64. The heavy loss that the Department has to incur on account of fires to its forests particularly chir, is more or less an annually recurring phenomenon.

Fire problem. The Department has practically no hold, and the Revenue Department, that is vested with powers, does not adequately appreciate the real magnitude of loss that the Government has so frequently to sustain. Now intensive management under modern Working Plans has been introduced in all the divisions of the State without any improvement in the helplessness of the Department in this direction. The consequences of a regenerated crop being overrun by a fire cannot be too strongly depicted. One mischief is quite enough to destroy the whole organization of a most thoughtful plan. The aggravated seriousness of the fire problem requires earnest and renewed attention from the Government, as they have brought into existence improved methods of forest management whose sensitiveness to fire is their greatest weakness.

65. The kuth godowns at Baramulla were insured against fire for Rs. 600,000 with the New India Insurance Co.,. A fire pump was also purchased and kept for emergencies.

Insurance against Fire. 66. Out of 9949 square miles of the forests, only 236.88 square miles or 2.38 per cent of the total area were closed to grazing during the year. This shows an increase of 12.79 sq. miles, on the last year's figures due to more areas being closed under the working plans for regeneration purposes. In addition to this closure against all cattle 958.73 square miles of deodar forests were nominally closed to grazing against nomad goats. The nomadic Bakarwal

Protection from cattle.

flocks, although undergoing steady decrease on account of the annually increasing grazing fees, are still potential enough to cause considerable damage to the forests and kuth fields.

67. Ningli and Haran willow plantations of the Sindh Forest Division were again attacked by the defoliating caterpillar (*Lymantria obfuscata Walk*). The Divisional Forest Officer is reported to have tried to subdue this epidemic by spraying with kerosene oil. In Muzaffarabad Division Horsechestnut suffered heavily from the attack of a defoliating butterfly. Exceptionally heavy snowfall during the winter of 1986 caused extensive damage to the forest growth. Abnormal rains following on the exceedingly cold winter caused lot of land slips in the forests. Keran and Kishtwar Divisions report great damage from avalanches. On account of heavy snow and prolonged winter, damage by black bear to all kail and deodar forests was intensified.

68. This year effective measures had been adopted well in time, for preventing trans-border raids for smuggling kuth. Two Military detachments were posted in Keran and Kishtwar Divisions to guard the State frontier on both sides. On Keran side there were a number of small conflicts with the raiders in one of which an official of the State force was severely wounded. The Military picketting continued all through the working season, with the result that no smuggling raids could take place. Zanskar officers assisted by an armed Police force successfully prevented all leakage of kuth. Th. Swarup Singh, Deputy Conservator of Forests and Col. Rahmat Ullah Khan who had been placed on special duty in regard to protection of kuth, completed their labours. The report of these officers was considered at a meeting of the Ministers, and decisions were taken for adopting suitable measures. The Chief Conservator and the Foreign and Political Minister took up the question of kuth smuggling with the Government of Punjab with the result, that the Punjab and Hazara Kuth Notifications were reinforced towards the close of the year. With the reintroduction of these enactments, most of the difficulties, relating to the protection of kuth, will disappear.

69. The Divisional Forest Officers of the kuth producing Divisions, who had been vested with 1st class Magisterial powers exercised these powers, in dealing with kuth offences. Prompt disposal of kuth cases by these officers had a very salutary effect on the local kuth offenders.

CHAPTER VII.— FOREST ENGINEERING.

70. During the year under report two hundred and forty five miles of new roads were constructed at a cost of Rs. 29770 averaging Rs. 122 per mile, as compared with one hundred eighty-one miles of roads in 1985-86, costing Rs. 28968 at an average of Rs. 156 per mile. Rs. 33120 were spent on the construction of bridges, as compared with Rs. 14859 in the previous year. In Keran Division 6 cantiliver bridges were constructed on the Kishenganga river, besides one suspension bridge at Salkhalla. One bridge was also constructed at Shalura in the Kamraj Division. 1524 miles of old roads were repaired at a total cost of Rs. 87044 as compared with 1771 miles at a cost of Rs. 27859 in the preceding year. The high expenditure under this head is due to the extensive damage done both to bridges and roads by the unprecedented floods of the last year. It is satisfactory to note that all damages, that were causing inconvenience to the public or interfering with departmental working were repaired during the year.

71. Safapur road, in the Sindh Forest Division, that had been transferred from the Revenue Department was improved into a fair-weather motor road at a cost of Rs. 2611. The Gul-Kanthan road, that is an important artery of communication in the Riasi district, was completed. This project covers a length of 25 miles.

72. The Kanzalwan-Kel Forest Road was transferred to the Public Works Department. The Kishtwar-Padder road, that had belonged to this Department, and was lately transferred to the Public Works Department, did not undergo any improvements during the year through that Department. It had to be maintained by Messrs Spedding Dinga Singh & Co. the forest lessees, for transport of their food grains.

73. The forest road along the left bank of Jhelum river from Kohala to Jangwan had been completely obliterated for a considerable distance by the last years floods. The damaged portions have all been set right, so that once more all through its length of 107 miles, this road is now open to through traffic through a country that had been altogether neglected before.

74. Inspection paths that had been constructed for facilitating inspections of the P. B. I. areas were maintained and further extended in all important divisions.



Photo. by G. P. Malhotra.

Shalura in Kamraj Division.

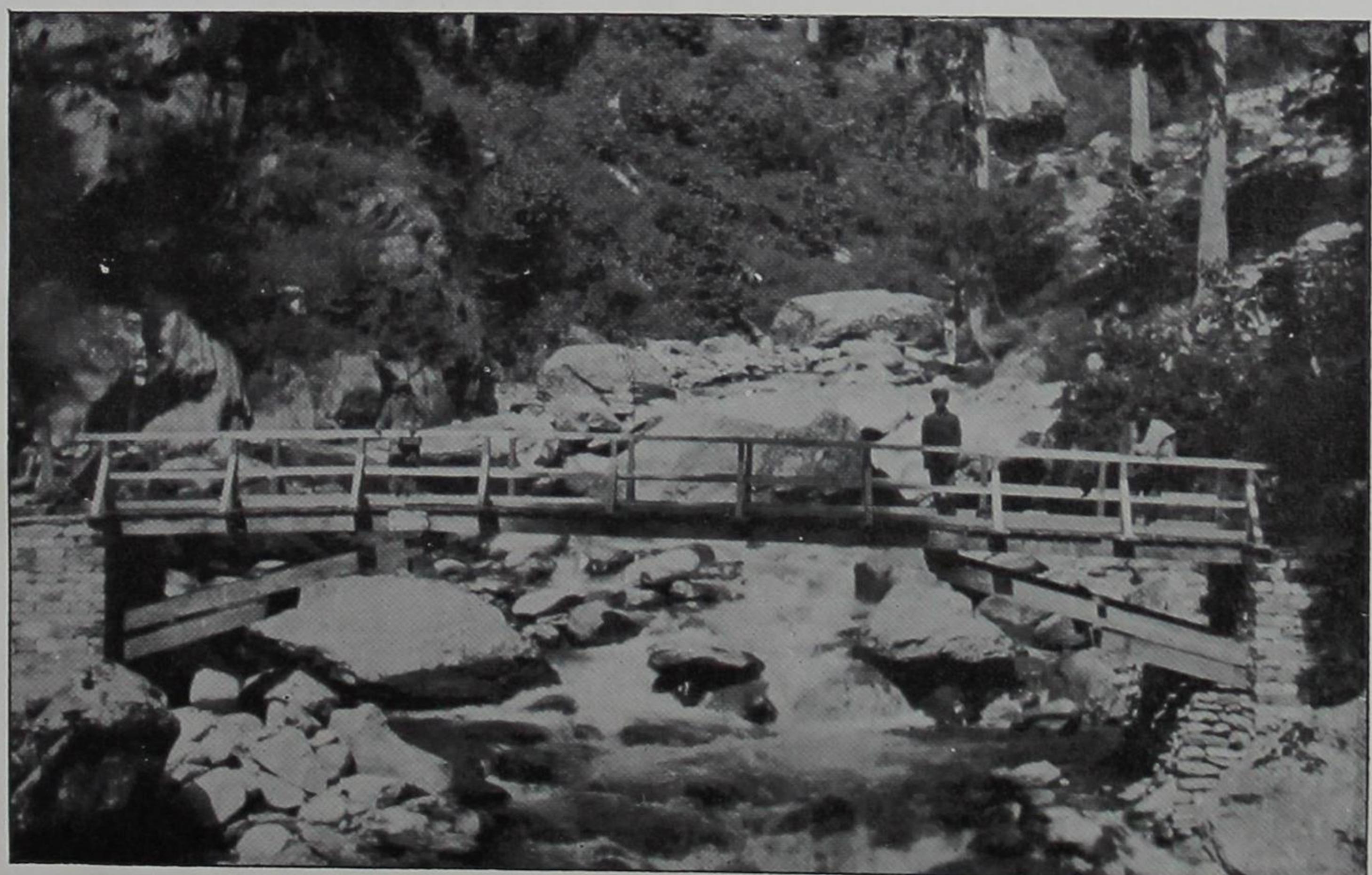


Photo. by P. Chand.

On the Kel Road, Sindh Division.
Forest Bridges.



75. During the year the total expenditure on new buildings was Rs.34,874. In addition to this money Rs. 60,605 were spent on repairs and improvements to existing buildings. This makes a total expenditure of Rs. 95,479 spent under A. VII.b., as compared with Rs. 1,07,022 spent in the preceding year. The important buildings constructed during the year were a Range quarter at Hattian, and Forest Rest Houses at Bhatakut, Bungas, Manasbal and Yus Maidan, and clerks quarters in the Bhadarwah Forest Division.

76. Under repairs, the bulk of the expenditure incurred had to be undergone for recouping the heavy damages from the 1986 abnormal floods. Expenses by Circles under this head stood at Rs. 1,47,649 Utilization Circle Rs. 30,070, Kashmir Circle Rs. 89,148 and Jammu Circle Rs. 28,431.

77. Prior to the 1986 flood the departmental telephone line had been operating from Mirpur to Kohala.

The flood had completely disorganised it. As it had been decided to shut down departmental working, the necessity of this line from Kohala to Owen no longer existed. Therefore, this portion was dismantled, and on the downward side the line was extended from Jangwan to Barsali. In going over this line for repairs deodar poles have to a very considerable extent, been replaced by iron rails. This improvement has done away with the necessity of frequent replacements of wooden poles. The new extension from Jangwan - Barsali, that covers a length of 21 miles, is resting entirely on iron rails. The iron rails, used in overhauling this telephone line belong to the tramway at Bela Bahadur Shah, that had been completely washed away by the flood. The whole telephone line now tranverses a length of 87 miles, and is in perfect working order. All depots within the timber collection and the rafting zone are controlled by this line.

78. Before 1986 this boom used to comprise 45 sections.

The floods had very seriously crippled it. This Bela Bahadur Shah Boom. year very satisfactory progress was made in the reconstruction of and repairs to this boom. Anchorage, pulleys and winches were all set right and strengthened. Old sections, that could be recovered after the flood were all overhauled. 45 new sections were made. Thus at the close of this year the boom had 70 sections in place of the former 45. For the normal requirements of floatation the boom generally requires 50 sections and a log linedorie of 1000 feet length. Thus with this year's improvements the

boom is appreciably stronger, and more efficient and capable of retaining timber than before, and with its additional equipment the boom should be able to withstand much heavier strain than could be expected of it in the past.

79. A very useful project, that has been completed during the year, is a protective iron crate bund on the upper side of the Bela Bahadur Shah boom for affording protection to the depot. The dimensions of this bund are, length 540 feet, basal width 26 feet, top width 10 ft. height 15 ft. This project is expected to suffice for all conceivable emergencies.



Sawing.



Photos by P. N. Kohli.

Launching.

Sleeper work in the Jhelum Valley Division.

CHAPTER VIII.— EXPLOITATION & COMMERCIAL DEVELOPMENT.

80. In pursuance of the abandonment of departmental working in favour of the sale of standing trees that had been decided upon last year, all departmental contracts for extraction of timber were terminated in the course of this year. Forests of the Kamraj Division were put up to tender for a five years lease and they realised very good rates i.e. deodar Rs. 49000, kail Rs. 1000 and fir and spruce Rs. 3500 per lac standing cft. These favorable prices once more justified the change of policy. In addition to Kamraj another lease was given for the major fellis of the Kashmir Division under the newly introduced working plan for that division. Here again fairly favourable rates were obtained, viz deodar Rs. 28000, kail Rs. 8000, spruce and fir Rs. 3000 per 1,00,000 cft of standing tree volume. Several other small forest leases were disposed of at satisfactory rates.

81. The total quantity of timber extracted by departmental agency during the year, after excluding drift timber, was 1,476,360 cft representing 5.38 per cent of the total out-turn of timber (excluding timber given to concessionists, free grantees and drift timber). The corresponding figures for the previous year were 1,521,504 cft representing 8.84 per cent of the total timber outturn.

Chips and barks from thinnings in the Sensa range of the Mirpur Division were extracted departmentally in the Jammu Circle.

82. The total quantity of firewood extracted during the year by departmental agency, after excluding firewood collected under drift operations, was 2,882,211 cft. representing 86.29 per cent of the total outturn of firewood (excluding firewood extracted by the concessionists and free grantees and firewood from drift operations). The corresponding figures for the previous year were 1,457,447 cft. representing 88.09 per cent of the total firewood out-turn.

83. Fifteen retail fuel depots, seven for the sale of hardwood and eight for the sale of soft wood, remained open in Srinagar throughout the year as in previous years. During the year the sales from the Srinagar retail depots amounted to 449,165 mds. of which 216,247 mds were hardwood. The corresponding figures for the preceding year were 540,760 mds of which

System of
exploitation

action by
departmental
agency

a. Timber.

b. Firewood.

Srinagar fuel
supply.

262,883 mds. were hardwood. In addition to the sales mentioned above 1,18,993 mds. of Fir firewood were sold to the Silk Factory at Srinagar.

84. Durring the year 261,573 cft. of unmarked drift timber were collected on the Jhelum, Chenab and Ravi River operations. rivers, and 34,722 cft. of firewood. The revenue realized from this source was Rs. 76,633 as compared with Rs. 1,18,715 during the previous year. The decrease is due to small quantity of waif timber having been collected during the year.


85. Stocks of timber in sale depots decreased from 1,030,664 cft at the beginning of the year to Depots. 663,459 cft at the close, while the corresponding figures for firewood were 714,092 cft at the beginning of the year and 382,874 cft at the close. At the beginning of the previous year firewood stocks had accumulated to 1,593,189 cft. The surplus balance at the end of this year will all be disposed of during 1987-88.

86. Appendix I gives details of the prices, realized for different kinds of timber at the main sale depots of the Department. On comparing this year's prices with the last year's rates it will be seen that the existing universal slump has reflected on this year's disposals by effecting an all round decrease in the prices. The Fir timber suffered least of all. Deodar and Kail rates had a more appreciable fall. Deodar scantlings were worse off than Kail scantlings. Deodar B. G. sleepers fared worse than any other class of timber. Although all prices realized during the year ruled lower than the preceding year, but considering the very large quantities sold during the year, the results obtained are as satisfactory as they could possibly be under the unfavourable circumstances that had to be tackled all through the year.

87. On the whole, the timber market in Srinagar during the year continued to be dull, whereas in Jhelum it was more unfavourable than in Kashmir. The year closed with prospects of a much severer depression in the following year.

88. The total quantity of timber extracted by purchasers Extraction by Private Agency. was 25,673,971 cft. representing 89.15 per cent of the total outturn, as compared with 20,314,900 cft. and a percentage of 92.91 during the previous year. These large outturn figures are due as explained in previous year's report, to the fact that the trees are now sold standing on a cubic foot basis, and actual tree volumes are shown as extracted instead of the sawn outturn as in previous

DIAGRAM SHOWING
VOLUMES OF LOGS OF EACH SPECIES SOLD
& RATES OBTAINED
IN
JHELUM DIVISION.



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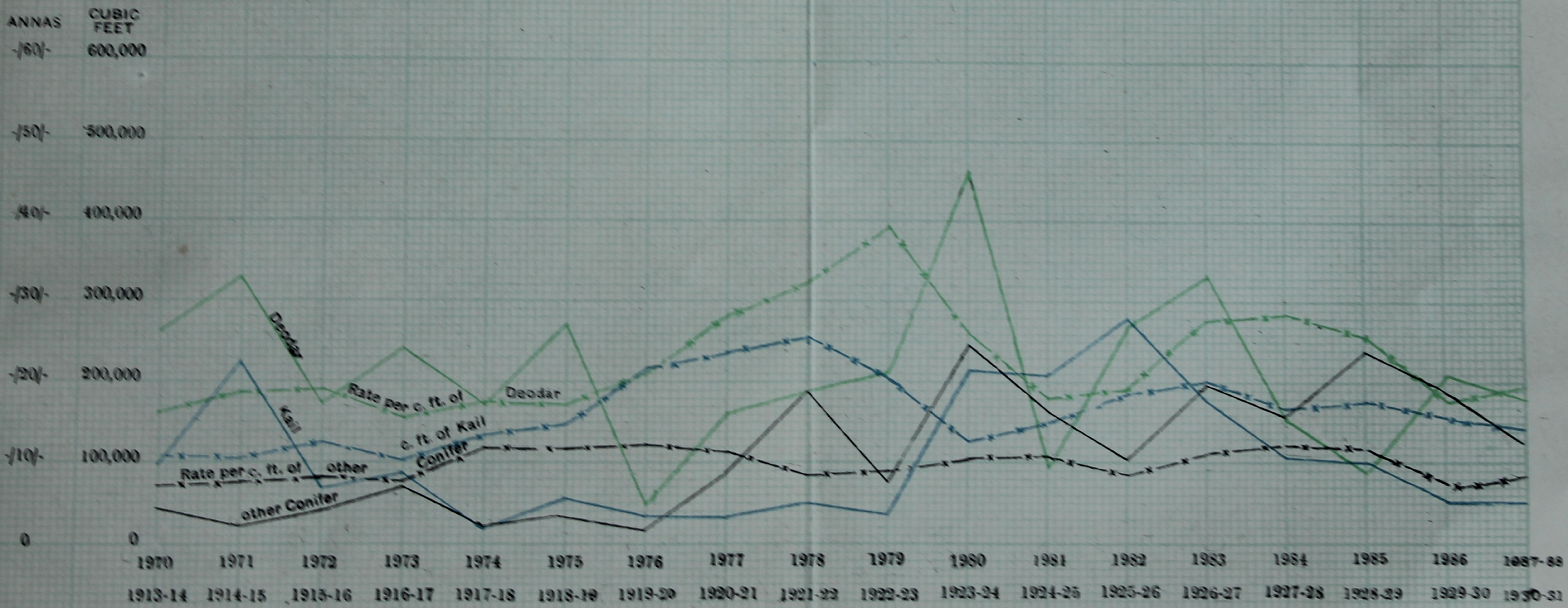
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DIAGRAM SHOWING
 TOTAL VOLUME SCANTLINGS OF EACH SPECIES
 SOLD
 & RATES OBTAINED PER CUBIC FOOT
 IN JHELUM DIVISION:



years, when the out-turn was sold on royalty.

89. The total quantity of firewood extracted by purchasers was 337,360 cft. or 10.36 per cent of the total firewood out-turn, as compared with 230,920 cft. or 11.91 per cent during the previous year. These figures do not, however, give a true idea of the actual volume of firewood extracted, as where trees are sold standing the whole volume is accounted for under timber, although part of the out-turn may actually be converted into firewood.

II. MINOR FOREST PRODUCE.

90. There was practically no change made during the year in the method or agency of working the minor forest products which were generally extracted under departmental agency and disposed of by the Utilization Circle. Artemesia, however, is an important exception. It has been sold to Raja Sir Daya Kishen Kaul under a fifteen year lease.

91. The total quantity of kuth extracted by departmental agency was 1,777 mds. The total quantity of kuth sold during the year amounted to 2,015 maunds out of which nine maunds were sold to Messrs Smith Stanistreet of Calcutta for European markets, and six maunds for testing in the Indian market. The rest viz., 2,000 maunds were delivered to Messrs E. D. Sassoon of Calcutta, under their five year's contract. The firm paid for this quantity of kuth but did not remove it from the Baramula godowns. Unfavourable conditions in China had considerably deflated the demand for this product with the result that surplus stocks of kuth had accumulated there. Therefore it was not considered advisable to aggravate the slump by a further export of the above 2,000 maunds. In order to help the contracting firm in tiding over the unfavourable conditions in China the Government acceded to the Firm's request for restricting this year's supply to 2,000 maunds instead the double quantity that had been stipulated under the Firm's agreement.

92. The total revenue realised from kuth amounted to Rs. 5,77,233 as compared with Rs. 15,92,300 during the previous year. The fall is due to the heavy curtailment in this year's supply to Messrs E. D. Sassoon & Co., as mentioned above. The total expenditure on protection, extraction, carriage and other charges in connection with kuth

amounted to Rs. 57,230 as compared with Rs. 1,09,059 incurred during the previous year.

93. Next to Kuth, resin is the most important product dealt with by departmental agency. During the year 54,803 maunds of crude resin were produced.

(b) Resin. The three resin producing divisions are Udhampur, Mirpur and Muzaffarabad, and they yielded 41,235; 9,660 and 3908 maunds respectively. Last year 56,586 maunds were extracted. This year's revenue from the sale of crude resin amounted to Rs. 2,41,239 as compared with Rs. 2,90,260 in the preceding year.

94. The earlier portion of the last tapping season was distinctly unfavourable for extraction of resin and consequently the yield up to the end of June was much lower than the normal outturn for the first $2\frac{1}{2}$ months. Later on conditions improved, and in both Mirpur and Udhampur divisions, the Divisional Officers deserve the credit of working up to the allotted quantities by working very hard all through the latter part of the working season.

95. All resin produced in the State is sold to the Jallo Factory. On account of the low prices of turpentine and rosin in America, and also to the increased competition of turpentine substitute, a by-product of petroleum, Jallo had to curtail its production. In consequence of this curtailment and fall in prices Jallo reduced the price of crude resin belonging to the State to Rs. 5/4/- per maund and offered to accept 36,000 maunds during the year. Therefore the department was left with an undisposed balance of nearly 15,000 maunds of crude resin at the close of the year. For the next year the prospects of this industry are still more gloomy. The question of establishing a factory within the State continued to engage the careful attention of both the Forest and Industries Departments. On account of the heavy depression that is raging at present and its future uncertainty it has not been possible to embark on this enterprise.

96. 21,266 bamboos were in hand out of previous year's stock and 54,210 were extracted under departmental agency during the year under report, making a total of 75,476. Out of these only 62,649 bamboos were disposed of during the year in Pathankote and Shakargadh depots leaving an outstanding balance of 12,265 in the forest as at the close of the year. The bamboo coupes remained much under worked. The principle difficulty is the long and costly transport that leaves no room for profit. This difficulty does not handicap the more accessible Punjab bamboo

(c) Bamboos



Sorting.



Photos by P. N. Kohli.

Cleaning.

Kuth Operations in the Sindh Division.

forests on the Pathankote side and therefore they are much better off than the Jasrota forests.

97. The total revenue realized from the sale of minor forest products extracted under departmental agency amounted to Rs. 8,82,194 as compared with Rs. 19,22,866 during the previous year. The decrease is mainly due to less disposal of 2000 maunds of Kuth against 5769 maunds in the preceding year.

98. As in two previous years Artemisia was worked by Raja Sir Daya Kishen Koul under his long term contract of fifteen years. During the year he extracted 101 tons of dry leaves. For this lessee paid Rs. 77,998 as royalty to the Department. The Santonin factory that the Raja is bound to establish under his agreement could not be erected during the year. It will be constructed next year in Baramulla.

99. Leases of other minor forest products were sold as usual on royalty and the total amount realized from this source was Rs. 29,629 as compared with Rs. 27,632 during the previous year.

100. The total revenue realized from the sale of minor forest products extracted by private agency amounted to Rs. 1,07,627 as compared with Rs. 1,02,329 in 1985-86.

101. The following statement shows the revenue realized during the year from the more important minor products mentioned above as compared with the revenue obtained during the previous three years:—

	1983	1984-85	1985-86	1986-87
Kuth	11,09,634	13,88,211	15,92,300	5,77,233
Artemisia	1,45,770	2,72,817	74,694	77,998
Resin	1,82,324	2,39,113	2,90,260	2,41,239

III. OUTTURN OF FOREST PRODUCE.

102. The following statement shows the outturn of various classes of forest produce extracted during the year as compared with figures of the

previous year :—

Class of produce.	1985--86	1986--87
Timber cft. solid	22,820,521	28,793,392
Fuel	18,609,757	24,110,125
Total	41,430,278	52,903,517
Bamboos, value Rs.	7,510	4,549
Fodder, grass leaves, value Rs...	4,259	3,188
Minor Forests Products including Resin and Artemisia, value Rs.	4,21,125	3,93,287
Kuth (maunds)	3,288	1,777

103. The following statement shows the quantity of
Concession and free grants. timber supplied at concession rates :-

YEAR.	CIRCLE.	QUANTITY	MARKET	PRICE
		cft.	VALUE.	REALIZED
1986--87	Jammu	197,257	27,654	3,036
	Kashmir	777,978	56,952	10,406
Total		975,235	84,606	13,442
1985--86	Jammu	188,792	21,137	2,800
	Kashmir	628,446	67,298	13,094
Total		817,238	88,435	15,894

104. In addition to the above 10,109 cft. of timber was supplied to fire and flood sufferers from the departmental depots. The market value of this timber was Rs. 4,310 and price realized amounted to Rs. 2,175. Under the 10 per cent concession rule 904 cft. were sold to State officials.

105. The following statement shows the quantity and value of forest produce removed during 1985-86 free of charge by the local villagers. The figures of firewood are estimates based on the number of houses. These figures do not include grass and minor forest produce removed free of charge.

Year	Circle	Timber		Firewood		Total Value Rs.
		Cft.	Value Rs.	Cft.	Value Rs.	
1986-87	Jammu ...	93,380	14,761	13,211,180	206,581	2,21,342
	Kashmir ...	326,847	34,237	7,746,642	154,926	1,89,163
	Total	420,227	48,998	20,957,822	361,507	4,10,505
1985-86	Jammu ...	38,900	7,076	6,560,950	102,623	1,09,699
	Kashmir ...	127,979	16,617	10,349,080	169,299	1,85,916
	Total	166,879	23,693	16,910,030	271,922	2,95,615

106. The total quantity of timber exported during the year under report from the State forests, and the Poonch and Chenani Jagirs amounted to 8,144,015 cft. as compared with 7,760,812 cft. in the previous year.

IV. COMMERCIAL DEVELOPMENT AND RESEARCH.

107. The question of seasoning walnut wood on a commercial scale was taken up with a view to establish a departmental seasoning kiln in Srinagar. The Conservator Utilization Circle went to Dehra Dun for conferring with the Seasoning Expert on this enterprise. On his return all preliminaries were settled and it was decided to establish the kiln next year.

108. A plant for destructive distillation of wood for the purpose of experimenting on by-products and extraction of wood tar was designed in consultation with the Industrial Chemist of the Industries Department. The idea is to use wood tar for tarring roads. The plant will be set up next year.

109. Trial manufacture of Pohu tool handles and Railway keys was taken up, and samples supplied to the Controller Railway Stores. Report of this

officer was not received before the conclusion of the year.

110. Manufacture of half-wroughts from walnut wood for supply to the Ishapur Rifle Factory continued. Walnut wood.

Manufacture of furniture and small stationary articles from rejected walnut pieces was taken up.

111. Considerable quantity of willow wood from Haran plantations was supplied to the Kashmir Match Factory. This factory could not make a start with the Fir Forests in the Sindh Division that it had taken up last year on a 10 year's lease for meeting its timber requirements both for splints and boxes.

112. Cultivation of Digitalis received considerable extension during the year.

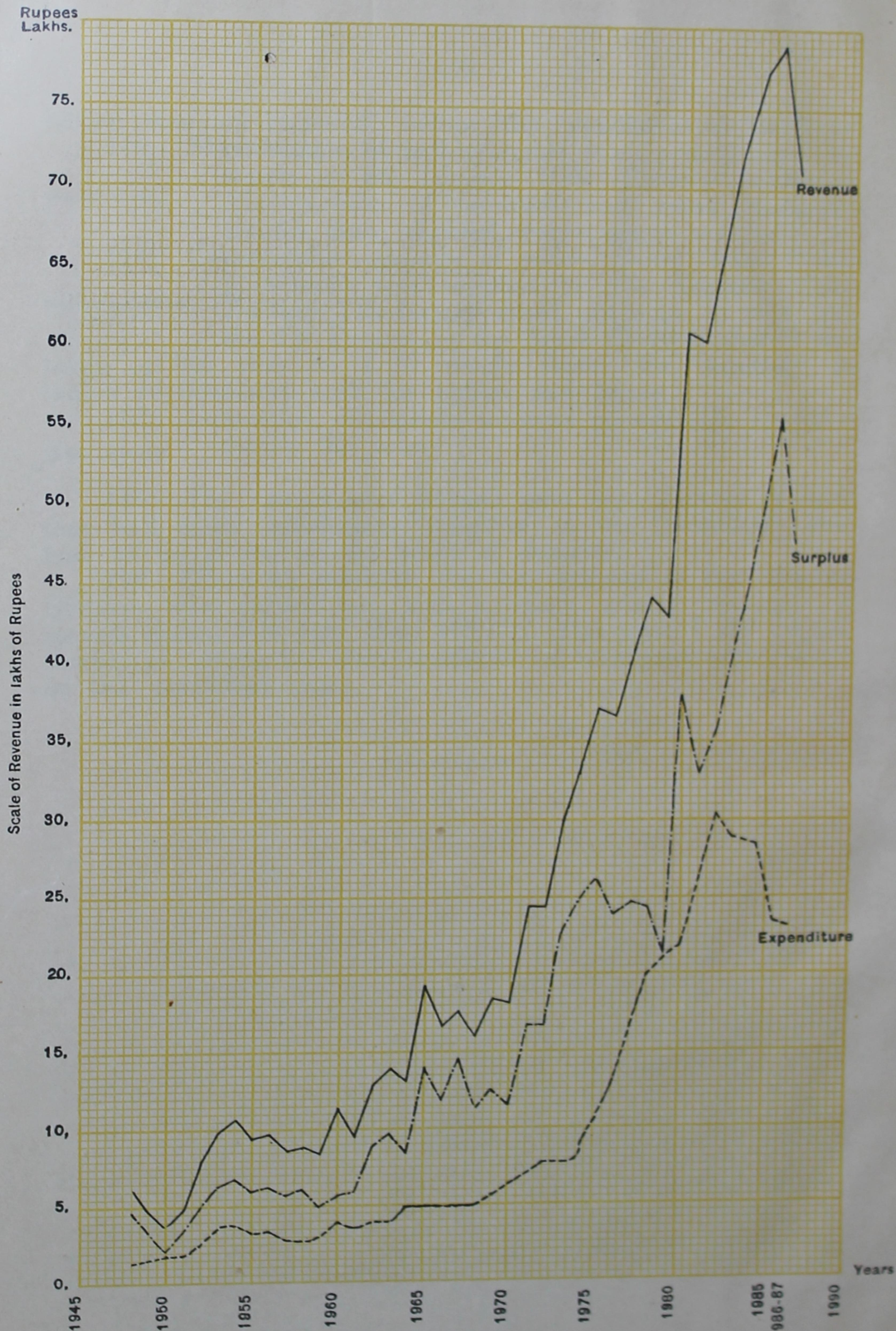
113. The extraction of Jhingan gum from *Lannea grandis* that had made satisfactory progress in the preceding year had to be given up for want of demand.

114. Efforts to establish the lac industry in the Billawar Division were carried out with a much greater measure of success during this year than 1985-86. This year 1 md 24 srs. 8 chs. of crude lac were produced as compared with 7 seers in the preceding year.

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FOREST DEPARTMENT JAMMU AND KASHMIR STATE.

Diagram showing revenue, expenditure and surplus S. 1948—Fasli 1986-87



CHAPTER IX. FINANCIAL RESULTS.

115. The surplus on the year's working amounted to Rs. 47,80,357 including Rs. 6,20,624 the surplus of the Bhaderwah and Langet Divisions transferred from the Private Domains from Chet to Assuj 1987 as compared with the last year's figures of Rs. 55,84,349. Thus excluding the surplus of Bhaderwah and Langet Divisions the decrease in surplus for the year under report as compared with the surplus of previous year amounts to Rs. 14,24,616. This decrease is attributable to three causes, viz., less delivery of 2,000 maunds of kuth valued at Rs. 5,74,000 to Messers E.D. Sassoon & Co. in place of the normal annual output of 4,000 maunds, the curtailment of nearly 15,000 maunds in the sale of crude resin to Jallo Factory and the depression in the timber trade. Apart from the above net surplus, the value of timber and firewood removed free by right-holders amounted to more than Rs. 4 lacs. The following statement compares the results of the year with those of 1985-86 and for the previous 5 years:-

Year	Receipts	Expenditure			Surplus
		A	B	Total	
1986-87 ...	71,02,043	13,24,096	9,97,590	23,21,686	47,80,357
Percentage ...	100	18.64	14.04	32.68	67.32
1985-86 ..	79,44,726	14,03,700	9,56,677	23,60,377	55,84,349
Percentage ...	100	17.66	12.05	29.71	70.29
1981 to 1985-1986					
(Average) ...	71,19,692	18,50,797	9,36,385	27,87,182	43,30,510
Percentage ...	100	25.99	13.15	39.14	60.86

116. As will be seen from the above table the expenditure under "A" shows a decrease of Rs. 82,383 and under "B" it displays an excess of Rs. 53,214 as compared with the corresponding figures of the last year. The decrease is due to cessation of departmental extraction of timber and increase has resulted from the additional expenditure that had to be incurred on employment of Military for combating foreign raids on Kuth. On the whole the expenditure shows a drop of Rs. 29,169 in favour of the current year.

117. In para 96 of the last report it was pointed out that the true annual surplus on the working of the department stands in the neighbourhood of Rs. 46 lakhs. This year's nett receipts display an excess over this normal figure. This is a very satisfactory result and indicates how successfully the department has withstood the universal depression, that has so heavily deflated the receipts of the revenue yielding departments in the State and outside.

118. The total value of stocks in hand declined from ^{Value of stocks in hand.} Rs. 10,96,215 to Rs. 8,44,842 at the close of the year. The decrease is due to the disposal of old stocks of timber.

119. Outstanding on account of revenue were Rs. 33,31,476 as compared with Rs. 25,21,133 at the close of ^{Revenue out-standings} the previous year. As explained in previous years reports these are not true outstandings, the large sum shown as outstanding being due to the fact that the full sale price of the trees sold under standing tree leases is entered in the accounts in Baisakh but only one instalment of the purchase price is actually due from the purchasers, under their agreements, during the financial year, the remaining falling due in the second half of the Sambat year, which falls in the succeeding financial year.

120. Refunds of revenue during the year amounted to Rs. 56,070 as compared with Rs. 20,293 during the previous year. In this sum, however, is included Rs. 38,132 refunded to timber traders of Lower Jhelum Division on account of the price of the timber purchased by them but washed away by flood before it was removed from depots.

CHAPTER X.—MISCELLANEOUS.

121. On account of heavy snowfall in winter and abundant rains in the spring the Woolar lake remained considerably swollen most part of the summer months. In consequence of this heavy storage of water the Ningle willow plantation remained under water for a considerable period, with the result, that the usual willow plantings had to be completely suspended in the spring. For the same reason, overflows of the Sindh river twice inundated the Gangerhama depot of the Sindh Division, and dislodged the firewood stacks and storage of log timber in that depot. These dislocations did not, however, cause any loss.

122. For obtaining relief from income-tax and super tax, to which sales of State timber in the Punjab are subjected, a great bulk of departmental timber was sold at the Barsali depot. Large quantities of State timber that had been washed down below Jhelum by the last years abnormal floods had to be disposed of within the British territory during this year. Salvage work in connection with this stranded timber was so satisfactory, that it was possible to dispose of all stocks within the first four or five months of the following year.

123. This year again an exhibition was held in the months of September and October on the occasion of His Highness the Maharaja Bahadur's birthday. The Forest Department took part in this exhibition by arranging a very good show of Forestry exhibits to demonstrate the various avenues of its activities. All collections displayed in the Forest Section were very much appreciated by visitors. A model designed to illustrate concentrated regeneration fellings and subsequent regeneration of felled over areas was particularly instructive.

124. Bulbs of *Tulipa Lanata* were collected for despatch to the Royal parks in London in continuation of the consignments of seeds and bulbs of wild flowers growing in Kashmir, that had been sent to London in the preceding year for introduction in the gardens of His Majesty the King Emperor.

125. A notable feature of this year's working was the visit of the Inspector General of Forests to the Government of India, to Kashmir. In the course of this visit he toured at length in the Kamraj, Langet and Sindh Divisions, and visited certain portions of

Rise of water in
Woolar & Sindh river

Income tax.

Exhibition.

Seeds and Bulbs
collection.

Inspector General's
visit.

Jhelum Valley and Kashmir Divisions. His tour was very instructive to those who had the privilege of accompanying him. The exhaustive tour note that the Inspector General issued soon after his return from Kashmir will be a valuable addition to the literature on Forestry in Kashmir.

126. The Jammu and Kashmir Forest Regulation No. 2 Legal enactments. of 1987 was sanctioned by the Government during the year under report.

127. During the year under report the Forest Department Conclusion. was transferred from the Revenue Ministry to the portfolio of the Finance and Development Minister.

In the course of the year the Minister made several field inspections. This personal contact had a very wholesome effect on the works that were inspected. The thanks of the Department are due to the Finance and Development Minister for the keen interest he took in its welfare at all times. Relation with other departments were all through cordial. In conclusion the Officiating Chief Conservator takes this opportunity of cordially acknowledging the loyal and untiring way in which the service has worked during the year.

T. C. HOON,

OFFG. CHIEF CONSERVATOR OF FORESTS.

12th March 1931.

JAMMU & KASHMIR.

APPENDICES

APPENDIX

Prices realized

Species	Class	A—LOGS.					
		1985—86.			1986—87.		
		Volume sold.	Price per cubic foot.	Volume sold.	Price per cubic foot.		
LOWER JHELUM DIVISION							
Deodar	I	1098	2 0 9	2550	1 13 5		
	II	502397	1 3 1	493856	1 6 4		
	III	38273	0 10 9	159568	0 6 5		
Total all classes		541768	1 2 7	655974	0 14 9		
Kail	I	420	1 2 0	598	0 14 8		
	II	161291	0 11 5	14014	0 9 9		
	III	14766	0 3 7	42353	0 3 9		
Total all classes		176477	0 10 9	56965	0 5 5		
Fir	I	.....	.....	.....	.....
	II	24382	0 5 1	8065	0 5 2		
	III	17815	0 2 6	4371	0 2 5		
Total all classes		42197	0 4 7	12436	0 4 3		
KASHMIR TIMBER & FIREWOOD DIVN.							
Deodar	I	737	2 11 6	3435	1 15 0		
	II	157585	0 14 11	116534	0 13 6		
	III	74561	0 7 8	18740	0 4 3		
Total all classes		232883	0 12 8	138709	0 10 7		
Kail	I	454	0 13 6	414	0 14 5		
	II	128712	0 8 10	49181	0 7 9		
	III	83707	0 5 4	32306	0 3 6		
Total all classes		212873	0 7 5	81901	0 5 3		
Fir	I	3100	0 5 5	22	0 7 9		
	II	109137	0 4 0	21372	0 4 3		
	III	254036	0 2 3	13365	0 2 7		
Total all classes		366273	0 2 9	34759	0 3 6		

No. I.

during 1986-87.

Species	Class	A—LOGS.			
		1985—86		1986—87	
		Volume sold.	Price per cubic foot.	Volume sold.	Price per cubic foot.
JAMMU DIVISION.					
Deodar	... { I	.....	Rs. as. p.	.....	Rs. as. p.
	II	888	1 9 9	407	1 1 6
	III	1599	0 14 6	.....	.....
Total all classes	... {	2487	1 2 6	407	1 1 6
Kail	... { II	502	0 15 7	100	0 12 3
	III	2449	0 13 7	.....	.....
Total all classes	... {	2951	0 13 7	100	0 12 3
Other logs	... II	69	0 11 0	.....	.....
Total all classes	...	69	0 11 0	...	....

APPENDIX

Prices realized during

Species	SIZE	B.— SCANTLINGS.		
		1985—		
		Number sold	Volume sold C. ft.	
LOWER JHELUM				
Deodar beam ...	12'×10"×5" & over	3024	20034	
„ B.G. sleepers ...	10'×10"×5"	19332	59892	
„ Gattoo ...	10', 8'×6'	437	1748	
„ Sleepers ...	8'×6'	761	1522	
Others ...	.....	1565	1565	
	Total all sizes ...	25119	84761	
Kail Beams ...	12'×10"×5" & over	6232	43624	
„ B.G. sleepers ...	10'×10"×5"	14552	50687	
„ Gattoo ...	10', 8'×6'	1324	6106	
„ Sleepers ...	8'×6'	533	1066	
Others ...	.....	1358	1358	
	Total all sizes ...	23999	102841	
Partal Beams ...	10×10"×5" & over	12887	99071	
„ Sleepers ...	10'×10'×5'	35667	123105	
„ Gattoo ...	10', 8'×7'	1532	6128	
„ Sleepers ...	8'×6'	144	288	
Others ...	.....	5740	5740	
	Total all sizes ...	55970	234332	
Chil Beams ...	12'×10"×5" & over	1	7	
„ Sleepers ...	10'×10"×5"	...	...
„ Sleepers ...	8'×6'	...	...
Others ...	...	...	...
	Total all sizes ...	1	7	

(v)

No. I

1985-86 and 1986-87.

86		1985-87			
Price per Piece.	Price per C. ft.	Number sold	Volume sold C. ft.	Price per Piece.	Price per Cft.

DIVISION.

Rs. A. P.	Rs. A. P.	2589	18123	Rs. A. P.	Rs. A. P.
10 1 4	1 8 4	40952	143332	11 2 3	1 9 6
4 14 8	1 9 4	2803	11212	4 14 2	1 6 4
5 13 1	1 7 3	2048	4096	4 11 11	1 3 0
2 14 0	1 7 0	834	834	3 6 6	1 11 3
3 6 7	3 6 7			3 8 7	3 8 7
5 6 4	1 9 6	49226	177597	5 2 0	1 6 9
8 7 6	1 3 4	1440	10080	8 7 0	1 3 3
3 4 8	0 15 1	12667	18980	3 5 5	0 15 3
5 1 9	1 1 8	335	1340	4 1 1	1 0 3
1 4 10	0 10 5	141	282	2 0 9	1 0 4
3 2 6	3 2 6	336	336	2 8 11	2 8 11
4 10 10	1 1 6	14919	31018	3 10 4	1 13 5
5 2 10	0 10 9	14053	98371	3 14 0	0 8 10
2 3 9	0 10 4	7665	26827	2 0 8	0 9 4
2 15 10	0 11 11	1615	6460	3 1 9	0 12 5
1 12 10	0 14 5	381	762	1 7 9	0 11 10
2 10 11	2 10 11	516	516	2 8 5	2 8 5
2 15 6	0 11 4	24230	132936	3 3 3	0 9 4
1 7 0	0 3 3	2	14	3 8 0	0 8 0
...	...	6	21	1 5 0	0 1 0
...	...	4	8	0 4 0	0 0 6
...	...	10	10	0 8 0	0 8 0
1 7 0	0 3 3	22	53	2 0 0	0 6 0

APPENDIX

Summary of Revenue and Expenditure for the year 1986-87

Budget Sub-heads.	Amount.
	Rs. A. P
REVENUE.	
<i>I.—Timber and other produce removed from the Forests by State Agency:—</i>	
(a) Timber	12,26,063 0 0
(b) Firewood and Charcoal	3,09,010 0 0
(c) Bamboos	4,412 0 0
(d) Kuth	577,236 0 0
(e) Grass and other products	2,99,265 0 0
Total ...	24,15,986 0 0
<i>II.—Timber and other produce removed from the Forests by consumers or purchasers:—</i>	
(a) Timber	44,05,915 0 0
(b) Firewood and Charcoal	25,486 0 0
(c) Bamboos	171 0 0
(d) Grazing and fodder grass	2,785 0 0
(e) Other minor products	193,671 0 0
Total ...	45,38,028 0 0
<i>III.—Confiscated drift and waif wood</i>	73,014 0 0
Total ...	73,014 0 0
<i>IV.—Revenue from Forests not managed by the State:—</i>	
(a) Duty on foreign timber and other produce	.....
(b) Revenue from shared and private Forests.	.....
Total ...	.....

No. II.

Summary of Revenue and Expenditure for the year 1986-87

Budget Sub-heads.	Amount		
	Rs	A.	P.
REVENUE— <i>Contd.</i>			
<i>V.—Miscellaneous:—</i>			
(a) Fines and forfeitures	...	...	11,369 0 0
(b) Refunds	...	...	90,84 0 0
(c) Other sources...	...	...	54,562 0 0
	Total	...	75,015 0 0
	Grand Total Revenue	...	71,020.43 0 0
EXPENDITURE.			
<i>I.—Timber and other produce removed from the Forests by State Agency:—</i>			
(a) Timber	...	...	4,07,909 0 0
(b) Firewood and charcoal	...	...	2,27,022 0 0
(c) Bamboos	...	...	3,571 0 0
(d) Kuth	...	...	59,099 0 0
(e) Grass and other minor produce.	...	...	159,388 0 0
	Total	...	8,56,989 0 0
<i>II.—Timber and other produce removed from the Forests by Consumers or purchasers.</i>			
	...	...	15,325 0 0
	Total	...	15,325 0 0
<i>III.—Confiscated drift and waif wood</i>			
	...	...	24,609 0 0
	Total	...	24,609 0 0
<i>V.—Rent of leased Forests and payments to shareholders in Forests managed by the State.</i>			

	Total	...	.....

APPENDIX

Summary of Revenue and Expenditure for the year 1986-87

Budget Sub-heads.	Amount.
	Rs. A. P.
<i>VI.—(a) Live stock, Stores, Tools, and Plant,</i>	
(b) Feed and keep of Cattle ...	182 0 0
(c) Stores, tools and plant ...	<u>22.652 0 0</u>
Total ...	<u>22.834 0 0</u>
<i>VII.—Communications and Buildings:-</i>	
(a) Roads ...	101,355 0 0
(b) Buildings ...	69,440 0 0
Road and Building Repairs ...	92,681 0 0
(c) Other works ...	<u>6.724 0 0</u>
Total ...	<u>270,200 0 0</u>
<i>VIII.—Demarcation, Improvement and Extention of Forests</i>	
(a) Demarcation ...	2,651 0 0
(b) Cost of Settlement, Compensation for lands and rights ...	2,750 0 0
(c) Surveys ...	3,351 0 0
(d) Working Plans ...	14,279 0 0
(e) Sowing and planting ...	12,526 0 0
(f) Protection from fires ...	628 0 0
(g) Other works ...	<u>22,106 0 0</u>
Total ...	<u>58,291 0 0</u>
<i>IX—Miscellaneous;</i>	
(a) Refunds ...	60,937 0 0
(b) Law charges ...	1,369 0 0
(c) Other charges ...	<u>13,542 0 0</u>
Total ...	<u>75,848 0 0</u>
Total "A" Conservancy and Works ...	13,24,096 0 0

No. II. —*Contd.**Summary of Revenue and Expenditure for the year 1986 - 87*

Budget Sub-heads.		Amount
		Rs. A P
"B" ESTABLISHMENT		
I. Salaries.		
(a) Conservators	—	80,183 0 0
(b) Superior Officers	—	146,398 0 0
(c) Subordinate Forest & Depot Establishment	—	416,869 0 0
(d) Office Establishment	—	124,715 0 0
(e) Deputation and special allowances	—	18,973 0 0
	Total	297,140 0 0
II.—Travelling Allowances		
(a) Conservators	—	
(b) Superior Officers	—	
(c) Subordinate Forest & Depot Establishment	—	
(d) Office Establishment	—	
	Total	141,080 0 0
III.—Contingencies		
(a) Stationery	—	4,310 0 0
(b) Purchase of Tools and Records	—	23,124 0 0
(c) Rents, Rates and Taxes	—	11,772 0 0
(d) Official Postage	—	13,661 0 0
(e) Sundries	—	16,563 0 0
	Total	60,370 0 0
Total "B" Establishment		397,590 0 0
Add "A" Conservancy & Works		13,24,096 0 0
Grand Total of Expenditure		23,21,686 0 0

(x)

APPENDIX

Financial results of the

Division.	I. Timber & other produce removed from the Forests by State Agency.	II. Other Revenue			
		Receipts.	Charges.	Receipts.	Charges
Direction	Division.	Rs.	Rs.	Rs.	Rs.
		615	4640		
					JAMMU
Mirpur	"	48407	32148	102547	354
Riasi	"	118	715	41080	186
Billawar	"	4444	3645	35442	1007
Udhampur	"	217238	107774	133275	449
Ramban	"	100	1728	604166	894
Kishtwar	"	648	13095	366676	970
Jammu	"	...	450	47666	13322
Bhadarwah	"	...	58	183946	596
Jammu Circle Office	"	21	725
Total Jammu Circle ...		2,70,955	1,59,613	15,14,819	18,503

KASHMIR

Kashmir Circle Office	...	...	96	1331
Kashmir Divison.	...	105811	20453	2597
Sindh	...	531880	99525	96999
Kamraj	"	1095788	256378	374124
Keran	"	30	7622	996138
Muzaffarabad	"	32587	22109	655572
Jhelum Valley	"	75848	38955	351739
Pir Panjal	"	101657	91190	112494
Langet	"	11425	27374	506276
Kashmir Timber & Firewood	"	3592	7038	15780
Total Kashmir Circle ...		19,63,825	6,56,002	31,29,671
				94,856

UTILIZATION

Utilization Circle Office	...	...	95	...
Mahan Division	...	...	12148	...
Lower Jhelum	"	...	27404	...
M. P. Utilization	"	180653	37767	1463
Total Utilization Circle...		1,80,653	37,767	41,110

No. III.

Fasli year 1986-87

III. Formation protection and improvement of the forests.	IV. "B" Establishment.	V. Total		Variation.		
		Charges	Receipts	Charges	Surplus	
		Rs.	Rs.	Rs.	Rs.	
...	78810	605	83450	...	82835	
CIRCLE.						
28005	50321	150954	110828	40126	...	
13589	32039	41198	46529	...	5331	
6904	39557	39886	51113	...	11227	
8777	47828	350513	164828	185685	...	
21814	53941	604266	78377	525889	...	
22321	44846	367324	81232	286092	...	
2069	39339	47666	55180	...	7514	
5999	11786	183946	18439	165507	...	
571	29078	2	30374	...	30353	
1,10,049	3,48,735	17,85,774	6,36,900	11,48,874	...	

FOREST CIRCLE.

...	34709	96	36040	...	35944	
14470	47424	131471	170302	...	38831	
5146	46972	628879	152728	476151	...	
25331	51628	1469912	336126	1133786	...	
351	38254	996168	103057	893111	...	
38194	45717	688159	106929	581230	...	
6349	33321	427587	110604	316983	...	
15258	33124	214151	141257	72894	...	
14736	19843	517701	62584	455117	...	
4535	35621	19372	47194	...	27822	
I,24,350	3,91,613	50,93,496	12,66,821	38,26,675	...	

CIRCLE.

796	27288	95	28084	...	27989	
9431	43447	12148	52878	...	40730	
46755	45570	27404	92325	...	64921	
46494	12150	182116	96411	85705	...	
1,03,476	1,28,455	2,21,763	2,69,698	...	47,935	

APPENDIX

Financial results of the

Division	I Timber & other produce removed from the Forests by State Agency.		II. Other Revenue	
	Receipts	Charges	Receipts	Charges
WORKING PLAN				
Working Plan Circle office ...	Rs.	Rs.	Rs. 328	Rs.
Research Division ...	.....	.....	21	.....
Jammu W. P. Division ...	.....	.....	46	.....
Bhadarwah W.P. Division
 Total W. P. Circle	395
 Grand Total ...	24,15,433	8,53,382	46,86,610	1,17,999

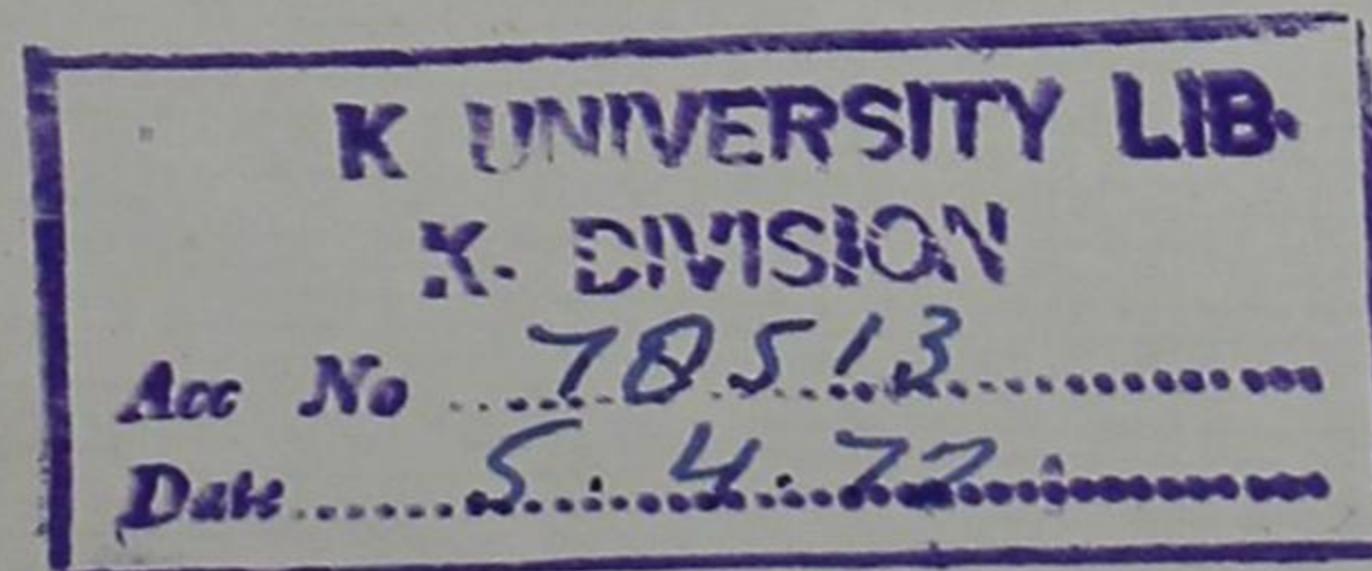
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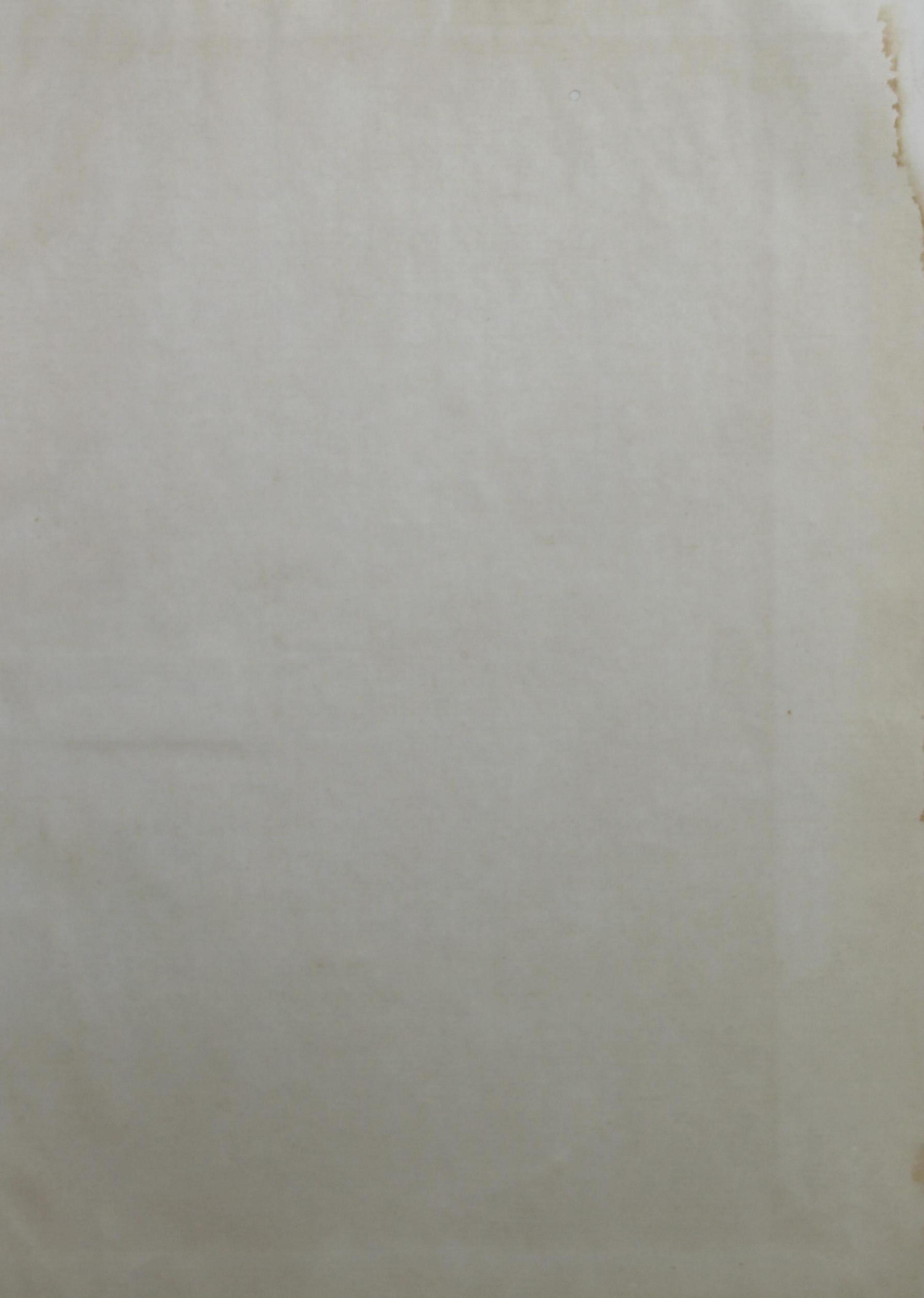
Fasli year 1986—87

III Formation protection and improvement of the Forests,	IV. "B" Establishment.	V. Total		Variations		
		Charges	Receipts	Charges	Surplus	

CIRCLE.

Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8290	17652	328	25942	.....	25614
942	13721	21	14663	.....	14642
4439	15443	46	19882	.....	19836
1169	3161	4330	4330
14840	49977	395	64817	64422
3,52,715	9,97,590	71,02,043	32,21,686	47,80,357	...







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